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ABSTRACT

A description is given of the development and evaluation of a staff development model that was used by District of Columbia teachers. The model was based on the belief that teachers learn best through an analysis of their own behavior and thoughtful application of ideas to their own contexts. The first phase of the study defined over 50 instructional variables that were significantly related to student outcomes. The goal for the second phase was to make sense of the findings and to develop a curriculum for use with secondary school teachers of low-achieving students. To accomplish this goal, the variables were grouped to form three conceptual units: (1) organizing and managing; (2) interactive instruction; and (3) monitoring and guiding seatwork. Small group workshops were designed to train the teachers in these areas. Dissemination constituted the third phase of the model's development. Research so far has indicated that the model has been effective in helping teachers and students. (CB)

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HOW EFFECTIVE IS AN ANALYTIC APPROACH TO STAFF DEVELOPMENT ON TEACHER AND STUDENT BEHAVIOR?

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HOW EFFECTIVE IS AN ANALYTIC APPROACH TO STAFF DEVELOPMENT ON TEACHER AND STUDENT BEHAVIOR?

Introduction

To meet the school needs of the multitudinous children blossoming from the 1950 baby-boom children, New York State reports hiring many certified teachers who lost jobs several years ago. Hiring teachers who have been out of the profession for several years has serious implications for staff development. An effort must be made to bring the newly-hired up to speed on what is known about effective classroom programs and practices. To accomplish this, a wide array of inservice and staff development programs are available. They range from one-day workshops with no follow-up to year-long programs with continuous follow-up. Some programs take a direct instruction approach, others are self-analytical. Some programs provide information regarding teacher and student change and improvement; most do not. The literature regarding which program works best in which context for what purpose is very thin. This is an area of research which is in its dawning. Hopefully, this body of knowledge will mature during the 1980s. The effort of this paper is to contribute to this knowledge base.

The belief that drives our approach to staff development is that teachers will learn best through an analysis of their own behavior and a thoughtful application of ideas to their own context. Our observation system provides teachers with mirrorlike images of their classrooms. The classrooms are described through low-inference quantitative observation data regarding activities, grouping, interactions, and engaged rates. The classroom climate is described qualitatively through observers' logs. In a series of small group interactive meetings, teachers discuss and analyze their own observation data. They study research findings, share problems,

and develop practical ideas for improving instruction. In the best sense, teachers in this system experience themselves as professionals and act as researchers in their own classrooms. Given this philosophy of staff development, the question this paper addresses is the effectiveness of this model in helping teachers and students use available class time to their best advantage.

Translating Research Into Practice

Teaching always includes a curriculum and a delivery system. The curriculum for the Effective Use of Time Program was derived from a three-phase NIE funded study wherein groups of instructional practices were found to be related to reading gain scores of secondary low-achieving students. The first phase of the study (Stallings, Cory, Fairweather and Needels, 1978), reported over fifty instructional variables to be significantly related to student outcomes. Admittedly, a number of the variables were overlapping. The goal for Phase II was to make sense of the findings and to develop a curriculum for use with other secondary teachers of low-achieving students. To accomplish this goal, variables were grouped to form three conceptual units: (1) organizing and managing, (2) interactive instruction, and (3) monitoring and guiding seatwork. These units and the percent of time found to be effectively spent in each unit are described on Table 1.

The Curriculum

Each of the conceptual units defined was developed for use in workshops. Because of the impact efficient organizing was found to have upon students' engaged rate, three workshops were developed which focused on (1) organizing the classroom, (2) planning appropriate lessons, and (3) managing student behavior. In 1979, when we were conducting Phase II of the study, very little was known about effective secondary instruction. To

TABLE 1

EFFECTIVE TIME ALLOCATIONS FOR SECONDARY READING CLASSES

Organizing/Management Activites (15% or less)

- Take Roll
- Make Announcements
- Pass Materials
- Organize Groups and Transitions
- Make Expectations Clear for the Period: Quality and Quantity of Work
- Clarify and Enforce Behavior Expectations

Interactive Instructional Activities (50% or more)

- Review/Discuss Previous Work
- State Purpose and Objectives
- Inform/Instruct New Concept
  - Demonstrate/Give Examples
  - Link to Prior Knowledge
- Question/Check for Understanding/Provide Feedback
- Reteach (if necessary)
- Oral Reading (poor context)
- Oral Drill and Practice
- Summarize

Monitoring and Guiding Seatwork (35% or less)

- Written Work
- Silent Reading

develop the curriculum for these workshops, we identified teachers who had students making exceptional progress (a gain of one year and eight months in reading during one year) and observed them in greater depth. This allowed the translation of the findings to be more specific and descriptive. During our first training sessions with teachers, we asked those who were identified as being efficient managers how they were able to accomplish classroom organizational tasks so quickly. Their good ideas shared in the context of the small group were recorded and incorporated into our curriculum. This process of illiciting teachers' workable ideas for specific instructional components has allowed our curriculum to change and adapt to new groups of teachers in a variety of settings, grade levels and subject areas. For example, a chemistry teacher and a first grade teacher would both focus on keeping their students involved in appropriate lessons, but practical ideas for accomplishing that would differ.

The second component our research found to be importantly related to student achievement was interactive instruction. In classrooms where teachers completed the organizing tasks quickly, the teachers provided more interactive instructional activities which kept the students involved in the tasks of learning. We define interactive activities as those which require both teachers and students to speak and listen. Levels of questions, responses, and feedback are important dimensions of these interactions. Interactive classroom activities might include some lecture/instruction with questions to check for students' understanding, small group discussions, oral drill and practice, reading of plays, review of homework, or games which reinforce the lesson. Skillful, effective teachers provided a variety of activities each period which kept all the students participating. In classrooms where more interactive activities were provided, students' attendance was significantly higher. The

substance of the curriculum for this component was derived from research findings, observers' anecdotal records, and teacher contributions during training sessions.

The third instructional component focused on monitoring seatwork activities. Within the class period, most teachers were observed to assign written work or silent reading which students were expected to accomplish during the class period. Typically, teachers sat at their desks and students waited in line for assistance or teachers monitored the class and assisted those students who requested help. In many classrooms where students were identified as low achievers, we found teachers tended to allocate 50 to 75 percent of the class time to seatwork activities. Our findings indicated that in classrooms where teachers limited seatwork to twenty minutes and moved around the classroom checking all students' work, students stayed more on task. Students in the latter type of classrooms gained more on reading achievement tests than did students in classrooms where teachers sat at their desks and students lined up for help. Research findings on monitoring and seatwork was the curriculum for this workshop. Teachers analyzed their own observation profile to see how much time their students spent doing seatwork and how much time they spent monitoring and managing the classroom. Teachers described their own monitoring systems in light of the research and speculated on how they might improve. Their ideas became part of the curriculum.

The Delivery System

After developing the curriculum for the three major components we had defined, our next task was to develop a delivery system for the workshop series. Our goal was to help teachers become aware of how they presently used their time and help them move toward instructional processes which would encourage their students to attend class, be involved when they were

in class, and achieve scholastically. Believing that how a curriculum is delivered is as important as the curriculum itself, we considered strategies which were most likely to help teachers use the ideas they would read and discuss. Our question was what kinds of activities and formats would teachers need to apply what they learned in their classrooms. We were quite certain that a good curriculum and a poor delivery system would not accomplish very much in terms of teachers improving instructional strategies. With this in mind, we designed the program to be offered at school sites for teacher convenience. Because we viewed teachers as professionals, we decided to give them research findings on effective teaching and help them to analyze their own data rather than telling them what to do. Because we wanted each teacher to discuss what they found and set goals, we kept the groups small (6-8 teachers). Because we wanted teachers to try new ideas and practice what they were learning, we spaced the workshops one to two weeks apart. Because we wanted teachers to know how much progress they were making toward their goals, we observed them in their classrooms before and after the workshop series. The model we developed is described in Table 2. This pretest, intervention, posttest design we have come to call an accountablilty model. It is an accountability model because trainers and teachers are held accountable for change that does or does not occur in teaching and student behavior. For example, if 50 percent of the teachers in the training program do not implement the questioning and positive feedback component of the program at the level recommended, the trainer must examine and modify the training program itself. If teachers do not meet their own goals on individual components, they may consider some new strategies.

The Research

The translation of research findings into a training model was the

TABLE 2

AN ACCOUNTABILITY MODEL FOR STAFF DEVELOPMENT

Baseline/Pretest

Observe teachers.

Prepare individual profiles of behavior.

Assess what change is needed: Teachers set goals.

Start where teachers are in skill development.

Inform

Provide information: research findings on effective practice.

Link theory, research, and practice.

Check for understanding: elicit practical examples.

Guided Practice

Provide conceptual units one at a time.

Help teachers adapt to own context and style.

Assess and provide feedback via peer observations.

Obtain commitment to try a new idea in class the next day.

Support and encourage change.

Posttest Observations

Observe teachers: prepare second profile.

Teachers analyze profiles.

Set new goals.

Assess training program for effectiveness.

basis for Phase II of the NIE project. Believing that teachers could learn to use classroom time effectively, a quasi-experiment was designed in which one group of teachers received the training while a control group matched for teaching experience and students' ability did not. The control and experimental groups were observed and measured on our set of variables to determine how much change occurred in specific instructional processes. In the fall of 1979, 26 experimental and 26 control teachers were observed in six northern California school districts. The experimental teachers received five workshops in the fall semester; control teachers were promised the workshops in the spring. Experimental and control teachers were observed again at the end of fall semester and at the end of the spring semester. In a workshop after each observation, experimental teachers received their profile and set goals for areas of improvement. At the end of the school year we found the experimental teachers had distinguished themselves statistically from the controls in using the desired instructional strategies. Most important their students gained .7 years or eight months more on reading achievement tests than did students of control teachers.

After the success of the quasi-experiment, a dissemination model was developed in Phase III. Since our model is more of a theory and process than a product, we trained interns at our facilities to conduct the observations and the workshops through participation. These certified trainers from many sectors of the country have subsequently disseminated the program. Our dissemination process has been funded by the National Diffusion Network. As previously stated, the question this paper addresses is whether the accountability training model we developed continues to help teachers use time effectively in classrooms and improve students' engaged rate and reading achievement. To address this question, the effects upon

the first experimental group of teachers trained in 1979 will be compared with program effects upon similar teachers and students trained in subsequent years.

The Sample

The general characteristics of the student and school population which was included in the 1978 study are similar to those we have chosen for comparison. These include black, white, and Hispanic; intercity, suburban, and rural; and junior and senior high school students. The students in the original study were identified as low-achieving students as are the comparison students in the District of Columbia. All of the teachers were involved in teaching basic skills.

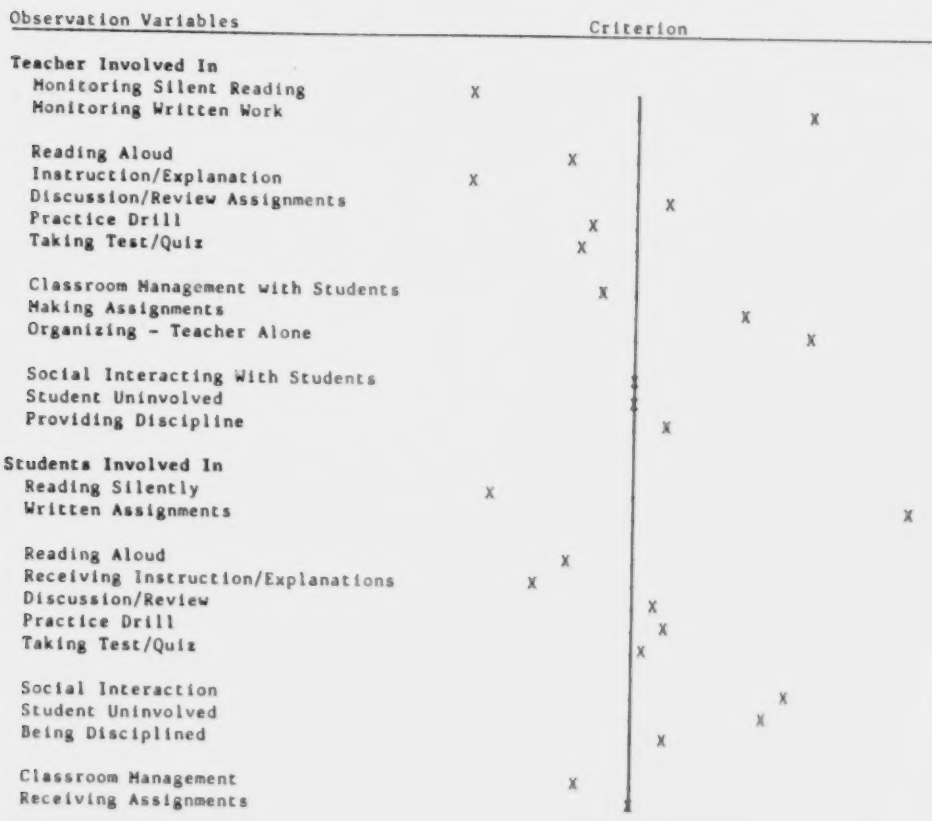
Key Elements

The key elements of the program remain the same. These are the following: (1) training interns to become certified trainers who can train other observers and teachers, (2) generating profiles of teachers and having teachers set goals for their own improvement, (3) providing interactive workshops to guide instruction, (4) measuring teacher change according to established criteria through observation, and (5) measuring student engaged rate and achievement.

Instruments

The same observation instrument continues to measure teacher behavior change and program implementation. The teacher profiles have been revised so that related components can be summarized more easily. To standardize the recommendations, all variables are reported in terms of percents of occurrence. Since the original study, three other studies have been completed and we have established a criteria for behavior displayed on the profile as a percent (see Figure 1).

OBSERVATION PROFILE OF BETTY BROWN'S CLASSROOM



Observation Variables	% of Time Spent: Criterion	% of Time Spent: Betty's Class	Goal
Teacher Involved In			
Monitoring Silent Reading	15.00	.00	Monitoring
Monitoring Written Work	20.00	36.00	35% or Less
Reading Aloud	6.00	.00	Interactive
Instruction/Explanation	25.00	10.00	Instruction 50%
Discussion/Review Assignments	10.00	13.00	or More
Practice Drill	4.00	.00	
Taking Test/Quiz	5.00	.00	
Classroom Management with Students	2.50	.00	Organizing 15%
Making Assignments	10.00	20.00	or Less
Organizing - Teacher Alone	2.50	18.00	
Social Interacting With Students	.00	.00	
Student Uninvolved	.00	.00	
Providing Discipline	.00	3.00	
Students Involved In			
Reading Silently	15.00	2.00	Seatwork 35%
Written Assignments	20.00	55.00	or Less
Reading Aloud	6.00	.00	Interactive
Receiving Instruction/Explanations	25.00	26.00	Instruction 50%
Discussion/Review	10.00	12.00	or More
Practice Drill	4.00	7.00	
Taking Test/Quiz	5.00	6.00	
Social Interaction	.00	14.00	Off Task 6%
Student Uninvolved	.00	12.00	or Less
Being Disciplined	.00	3.00	
Classroom Management	5.00	.00	Organizing 15%
Receiving Assignments	10.00	10.00	or Less

FIGURE 1

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Results

District of Columbia (DC) teachers presently in the project are compared on implementation variables for which data are available from the original study (see Table 3). Overall, the DC teachers compare favorably on key variable implementation with the original study. DC teachers scored well above the criteria on all variables used in these comparisons except two.

Evaluation staff in the DC project have computed pretraining and posttraining scores for teachers and students for a larger number of variables. The changes in behavior shown on Table 4 indicate that students were significantly off task less often after their teacher's training than before the training. Teachers offered significantly more instruction and oral reading for context after the training than before. Most important, all posttraining variables are within the criteria band.

The case for a strong positive significant relationship between engaged rate and student achievement has been made by several researchers (Brophy and Evertson, 1974; Fisher et al., 1978; Stallings, 1975; Stallings, Needels and Stayrook, 1979; Stallings and Mohlman, 1981; and Stallings, 1985). Projects using the Effective Use of Time program have consistently reported a significant increase in the amount of time students spend on task. For this paper a comparison was made of student pretest and posttest engaged rates in the original experiment with engaged rate changes in subsequent projects. The data shown on Table 5 suggest that our training program is still effective in increasing the time students spend on task. An 8 percent increase of student engaged time in a 60 minute class period equals approximately five minutes. A five minute increase in 180 school days equals 15 additional hours. Fifteen hours equals three weeks of additional time per one class period. This additional student engaged time must be considered educationally significant as well as being

TABLE 3

SCORES OF D.C. TEACHERS COMPARED TO 1979 TEACHERS ON KEY INTERACTION VARIABLES

Variable	Criteria %	$\bar{X}$ 1979 Score % (N= 26)	$\bar{X}$ D.C. 1984 Score % (N=19)
All Interactions: Reading	64	66.3+	89.4+
Instruction/Explanation	16	19.4+	27.2+
Teacher Questions: Reading	10	10.6+	14.0+
Student Response: Reading	9	9.7+	14.5+
Praise/Support-Reading or Task	4	5.1+	7.0+
Corrective Feedback: Reading	4	4.3+	2.2-
Probing Questions	.6	1.0+	1.4+
Teacher Interacts: Different Student	7	7.7+	9.3+
Students Reading Aloud	5.7	4.6-	4.3-

+ = Meets Criteria

- = Does Not Meet Criteria

TABLE 4

PERCENTAGES OF OBSERVED TIME SPENT ON KEY COMPONENTS

	Goal	D. C. Teachers Pre Training (N = 29) $\bar{X}$ %	D. C. Teachers Post Training (N = 29) $\bar{X}$ %	Difference %
Organizing				
Classroom Management	Total 15% or Less	7.50	4.32	-3.18
Making Assignments		5.65	6.40	.74
Interactive Instruction				
Instruction/Explanation	Total 50% or More	26.03	35.19	9.16*
Discussion/Review Assignments		15.30	17.20	1.90
Practice Drill		3.40	2.98	-.42
Oral Reading for Context		1.92	5.29	3.37*
Seatwork				
Reading Silently	Total 35% or Less	1.28	1.06	-.22
Written Assignments		19.96	15.92	-4.04
Off Task				
Social Interaction	Total 6% or Less	6.18	2.22	-3.96**
Student Uninvolved		7.20	2.53	-4.66*
Being Disciplined		.31	.09	-.22

** α = .01
* α = .05

TABLE 5

IMPROVEMENT IN STUDENT ENGAGED RATES*

Training Group	N	Pretraining		Posttraining		Change		
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	p
Original Experiment	31	76.7%	11.3	85.6%	7.1	+8.9%	8.3	.001
Year 2	35	82.3%	12.2	90.3%	8.1	+8.0%	11.3	.001
Year 3	26	82.7%	8.6	90.7%	11.1	+8.0%	12.1	.005

TABLE 6

GRADE EQUIVALENT SCORES ON CTBS

	Pretest	Posttest	Gain	Difference
Original Study (1979)				
Treatment	5.7	7.5	1.8	.6
Control	7.2	8.4	1.2	
District of Columbia (1983)				
Treatment	6.5	8.0	1.5	.8
Control	6.6	7.16	.7	

TABLE 7

MEAN AND STANDARD DEVIATIONS OF GAIN ON CTBS SCORES

	$\bar{X}$ Gain	SD	Effects Size		SD Units
Original Study (1979)					
Control Standard Scores	37.90	24.15	$\frac{50.45-37.90}{24.15}$	=	.52 SD
Treatment Standard Scores	50.45	31.94			
District of Columbia (1983)					
Control NCE* Scores	3.0	6.4	$\frac{7.9-3.0}{6.4}$	=	.76 SD
Treatment NCE Scores	7.9	5.6			

*Normal Curve Equivalents

statistically significant.

Most important is the question of how much did low achieving secondary students whose teachers were in the Effective Use of Time (EUOT) program gain in reading achievement. For this report, we use test data available from three locations. The first includes three treatment schools in the District of Columbia which used the Effective Use of Time program with ninth grade students performing two grades below level in 1982. (This sample is similar in achievement level to the 1979 sample.) During the school year, students in nine EUOT classrooms gained on the average 1.5 years on the Comprehensive Test of Basic Skills (CTBS) (see Table 6). Ninth grade students scoring two grades below level in three control schools scoring two years below grade level gained .7 years on the CTBS. The difference between EUOT treatment and control classrooms in gain was .8 years. The difference in the gain between 15 treatment and 14 control classrooms in the 1979 submission was .6 years. For students who have a history of failure, these differences are educationally significant. In the 1979 study, the effects size of treatment upon students was also examined. That analysis is reported here (see Table 7). Standard scores were used in 1979; normal curve equivalencies are used in 1984. The effects size in 1984 is larger. A standard deviation unit of .76 is considered educationally significant (Hedges, Gage & Oklen, 1978).

Unfortunately, most secondary schools infrequently test the reading ability of their students. There is rarely pretest and posttest data available. For instance, in Putnam County, West Virginia, CTBS reading scores were available only for the sixth grade and ninth grade at the county level. Our program was started there in 1980 and has continued. During this period, sixth and ninth grade language arts and reading teachers have been included in the Effective Use of Time program. A trend

of improved reading scores can be seen from the baseline in 1979 to 1984 (see Table 8).

Another way to evaluate program impact is to consider who is thriving. In Tupelo, Mississippi, the Effective Use of Time program has been in effect since spring 1983. The three ninth grade language arts teachers were involved in our program during the school year 1983-1984. During this period, the percent of students scoring below the 25th percentile of the CTBS decreased from 10 percent to 6 percent (see Table 9). This finding is significant in that the EUOT program's goal was to improve the reading scores of secondary low achieving students.

Discussion

There is ample evidence from this and other studies that the staff development model described in this paper does relate to teachers' changing how they use classroom time (Mohlman, et. al, 1982; Devlin-Scherer, 1984; Schaffer, 1984; Simons, 1985; Stallings and Smylie, in progress). There is also evidence that students were more involved in classroom activities after their teachers attended the Effective Use of Time (EUOT) workshops. However, the data on student achievement gain is limited in that, other than the original study, the test scores available are at the school or district level. Only a sample of teachers in each school took part in EUOT training. Thus, student achievement gain could be attributed to factors other than the EUOT program. To the degree that student engaged rate can be accepted as a proxy for student achievement, this model has a positive impact on students' success in school.

Further research is needed to understand in greater depth the effect of staff development models upon teachers' sense of efficacy, teacher attitudes toward their profession, and long term effects on instruction. The question of maintaining improvements in classroom instruction is a

TABLE 8

STUDENTS AVERAGE GAIN IN READING ON CTBS (PUTNAM COUNTY, WVA)
Ninth Grade Class Reading Scores

Teachers	Baseline 1979-80	CTBS % 1980-81	CTBS % 1981-82	CTBS % 1982-83	CTBS % 1983-84
9th Grade	53%	56%	56%	57%	57%
6th Grade	54%	53%	55%	58%	62%

TABLE 9

STUDENTS AVERAGE GAIN IN READING ON CTBS (TUPELO, MS)
(Same Students as 8th Graders and Then as 9th Graders)

Quarters		8th Grade (1983)	9th Grade (1984)
% Students in	Q1 <26%	10.4%	6.5%
	Q2 26-49%	19.4%	23.8%
	Q3 50-74%	31.1%	29.3%
	Q4 >75%	39.1%	40.4%

particularly important question. Millions of dollars have been spent on staff development, but little is known regarding the degree to which instruction improved, if so, for whom, under what school conditions, or how long the improvement was maintained. The studies reported here are steps in the direction of measuring teacher and student improvment for one year. A study by Schaffer (1984) suggests that teachers who implemented the EUOT model to a high degree in the first year were found to be implementing more of the model two years later than were the other teachers. However, even the high implementers had lost some of the skills they had developed. The question Schaffer raised was how many booster shots might teachers need per year to continue to use innovations. These questions of how much follow up, what form, and for how long must be answered for staff development programs to be truly implemented and in the long run, cost effective.

BIBLIOGRAPHY

Brophy, J. and Evertson, C. Process-Product Correlation in the Texas Teacher Effectiveness Study. Austin, Texas: Research and Development Center in Teacher Education, University of Texas, 1974.

Devlin-Scherer, Roberta. "The Impact of Developing Teacher Commitment to Behavorial Change." Presented at AERA, New Orleans, LA, April, 1984.

Fisher, C. W., Filby, N. N., Marliave, R. S., Cohern, L. S., Dishaw, M. M., Moore, J. E., and Berliner, D. Teaching behaviors, academic learning time and student achievement: Final report of Phase III-B, Beginning Teacher Evaluation Study. Far West Regional Laboratory, San Francisco, CA 1978.

Hedges, L. V., Gage, N. L., and Oklen, I. Meta-analysis of research on teaching. Paper presented at the 1978 AERA Annual Meeting.

Mohlman, G., Kierstead, J., and Gundlach, M. "A Research-Based Inservice Model for Secondary Teachers." Educational Leadership. October, 1982. 40. pp. 16-19.

Simons, Sandra. "What Effect Does Observer Training Have on Teacher Classroom Performance?" Presented at AERA, Chicago, Illinois, March, 1985.

Schaffer, Eugene, C., "A Two-Year Follow-up of the Implementation of the Program." Presented at AERA, New Orleans, LA, April, 1984.

Stallings, Jane A. "A Study of Implementation of Madeline Hunter's Model and Its Effects on Students," Journal of Educational Research, 1985, in press.

Stallings, J. Implementations and child effects of teaching practices in Follow Through classrooms. Monographs of the Society for Research in Child Development, December, 1975, 40, 7-8.

Stallings, J.A., Cory, R., Fairweather, J., and Needels, M. A Study of Basic Reading Skills Taught in Secondary Schools. SRI, International, Menlo Park, California, January 1978.

Stallings, J. and Mohlman, G. School Policy, Leadership Style, Teacher Change and Student Behavior in Eight Schools. Final Report prepared for the National Institute of Education, Washington, D.C., 1981.

Stallings, J., Needels, M., and Stayrook, N., How to change the process of teaching basic reading skills in secondary schools. Final report to the National Institute of Education. SRI, International, Menlo Park, Califrofnia, 1979.

Stallings, J. and Smylie, M. "Results of the Effective Use of Time Staff Development Program, School Year 1983-1984," Nashville, TN: Peabody Center for Effective Teaching, Vanderbilt University, in progress.